UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,544	11/27/2001	Uwe Fischer	DE9-2000-0031 (267)	8179

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EXAMINER
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ART UNIT	PAPER NUMBER
2171	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/994,544	FISCHER ET AL.
	Examiner	Art Unit	
	Patrick J Santos	2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may ba available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within tha statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, causa tha application to becoma ABANDONED (35 U.S.C. § 133). Any reply received by the Offica later than three months after the mailing date of this communication, even if timely filed, may reduca any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2001*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 8 is objected to because of the following informality: the word "method" is used rather than "system" (Claim 8, ln. 3) in a system claim (Claim 8, ln. 1). Appropriate correction is required.

Specification

2.   The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Instances in the specification include, but are not limited to:

-   EPO 00116861.6 (Specification: p.11, ln. 22)

-   Wilcox et al., "Segmentation of Speech Using Speaker Identification", 1994, ICASSP (Specification: p. 13, lns. 21-22; p. 16, lns. 8-10);

-   Montacie et al., "A Silence/Noise/Music Speech Splitting Algorithm", 1998, ICSLP (Specification: p. 31, lns. 22-24; p. 16, lns. 10-12);

-   Muthusumy et al., "Automatic Language Identification : A Review/Tutorial", 1994, IEEE Signal Processing;

-   Farach et al., "Sparse Dynamic Programming of Evolutionary-Tree Comparison", 1997, SIAM Journal of Computing; and

-   Melamed, "A Geometric Approach to Mapping Bitext Correspondence", 1996, EMNLP (p. 17, lns. 6-7; p. 19, lns. 17-19).

Applicant is required to amend the disclosure to include the material incorporated by reference.

The amendment must be accompanied by an affidavit or declaration executed by the applicant,

or a practitioner representing the applicant, stating that the amendatory material consists of the

same material incorporated by reference in the referencing application. See *In re Hawkins*, 486

F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA

1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Additionally, improper attempts to incorporate essential subject matter by reference of a

U.S. patent or application which itself incorporates essential subject matter by reference into this

application is improper because. See MPEP § 608.01(p) Instances include, but are not limited

to:

-   U.S. Patent Application No. 09/447,871 (Specification: p. 6, ln. 4; p. 12, ln. 20; p. 17,

    ln. 28; p. 18, ln. 2; p. 18, ln. 8).

Correction is required.

3.   The use of the trademarks have been noted in this application. Examples include, but are

not limited to:

-   IBM VIAVOICE (TM) (Specification: p. 8, ln. 1);

-   LATEX (TM) (Specification: p.14, ln. 4); and

-   MICROSOFT WORD (TM) (Specification: p. 14, ln. 22).

Trademarks should be capitalized wherever they appear and be accompanied by the generic

terminology.

Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any manner

which might adversely affect their validity as trademarks. Correction is required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 5,515,490 issued to Buchanan et al. (hereafter Buchanan '490).

Claim 1:

Regarding Claim 1, Buchanan '490 discloses an automatic temporal formatter for

synchronizing multimedia data streams such as video, audio, and text (e.g. subtitles).

Specifically, Buchanan '490 discloses: a computer-based method of synchronizing a realization

of a media (Buchanan '490: Abstract) stream having a first representation synchronized with

said realization, and at least one second representation (Buchanan '490: col. 57, lns. 11-13), said

method comprising:

-    determining structure information for said first representation and said at least one second

     representation (Buchanan '490: col. 23, lns. 59-65; col. 57, lns. 20-30);

- determining structure association information between said first representation and said at least one second representation (Buchanan '490: col. 23, ln. 66 to col. 24, ln. 10; col. 57, lns. 31-50); and

- synchronizing said at least one second representation with said first synchronized representation and said realization using said structure association information (Buchanan '490: col. 24, lns. 11-15; col. 57, lns. 51-63; col. 58, lns. 9-23).

Claim 13:

Examiner notes that Claim 13 is the apparatus embodiment of Claim 1 and is rejected on the same basis.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 2-3 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan '490 in view of the publication, "Synchronization Relation Tree : A model for Temporal Synchronization in Multimedia Presentation", by Kim et al. published as Technical Report TR92-42, by the Dept. of Computer Science, Univ. of Minnesota, 1992 (hereafter Kim '92).

Claim 2:

Regarding Claim 2, Buchanan '490 discloses all the limitations of Claim 1 (supra).

Buchanan '490 additionally discloses: said step of determining structure information further

comprising: analyzing said structure information of said first and said at least one second

representation (Buchanan '490: col. 23, lns. 59-65; col. 57, lns. 20-30). Furthermore, Buchanan

'490 discloses providing a stream of temporal data (Buchanan '490: col. 23, lns. 59-65; col. 3,

lns. 40-47, note that data provided continuously over runtime reads on a stream). However,

Buchanan '490 does not explicitly disclose: the stream of temporal data comprised of tree

locators.

Kim '92 discloses a synchronization relation tree (Kim '92: Abstract). (Note that a data

structure that contains pointers to data corresponding to the nodes rather than the data itself reads

on tree locators).

It would have been obvious to a person having ordinary skill in the art to apply the

synchronization relation tree of Kim '92 to the automatic temporal formatter of Buchanan '490.

The motivation to combine is suggested by Kim '92 which discloses: the synchronization

relation tree provides for both "temporal relationship consistency" and "dynamic schedule

completion" and further is better suited for an object-oriented implementation (Kim '92: p.3, ln.

38 to p. 4, ln. 3).

Claim 3:

Regarding Claim 3, Buchanan '490 and Kim '92 in combination disclose all the

limitations of Claim 2 (supra). Further note that Buchanan '490 and Kim '92 in combination

disclose: aligning said determined structure information of said first representation and said at

least one second representation (Buchanan '490: col. 24, lns. 11-15; col. 57, lns. 51-63; col. 58, lns. 9-23).

Claims 14-15:

Examiner notes that Claims 14-15 are the apparatus embodiment of Claims 2-3 respectively and are rejected on the same basis.

8.   Claims 4-5, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan '490 and Kim '92 in view of the publication, "Cooperative Use of MHEG-5 and HyTime", by Rutledge et al., published by Proceedings of Hypertext and Hypermedia, 1997 (hereafter Rutledge '97).

Claim 4:

Regarding Claim 4, Buchanan '490 and Kim '92 in combination disclose all the limitations of Claim 3 (supra). Buchanan '490 and Kim '92 in combination further disclose: wherein said realization comprises at least one version of content, said method further comprising: aligning said at least one version of content with said first representation (Buchanan '490: col. 24, lns. 11-15; col. 57, lns. 51-63; col. 58, lns. 9-23). However, Buchanan '490 and Kim '92 in combination do not explicitly disclose: to produce a web of relations between said at least one version of content and said first representation.

Rutledge '97 discloses MHEG-5 and HyTime (Hypermedia/Time-based Structuring Language): producing a web of relations (Rutledge '97: Section 2, titled "Standards for Hypermedia", second paragraph).

It would have been obvious to a person having ordinary skill in the art to apply the

HyTime language of Rutledge '97 to the Buchanan '490 and Kim '92 combination. The

motivation to combine is suggested by Rutledge '97 which discloses: HyTime especially in

cooperation with MHEG-5 provides a particularly advantageous combination for the encoding of

hypermedia (and multimedia) presentations (Rutledge '97: Abstract).

Claim 5:

Regarding Claim 5, Buchanan '490, Kim '92, and Rutledge '97 in combination disclose

all the limitations of Claim 4 (supra). Further note that Buchanan '490, Kim '92, and Rutledge

'97 additionally disclose: aligning said at least one version of content with said first

representation produces a web of relations between a structural view of said at least one version

of content and said first representation (Buchanan '490: col. 24, lns. 11-15; col. 57, lns. 51-63;

col. 58, lns. 9-23; Rutledge '97: Section 2, titled "Standards for Hypermedia", second

paragraph).

Claims 16-17:

Examiner notes that Claims 16-17 are the apparatus embodiment of Claims 4-5

respectively and are rejected on the same basis.

9.   Claims 6-7 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Buchanan '490 and Kim '92 in view of the publication, "Using the Strategy Design Pattern to

Compose Reliable Distributed Protocols", by Garbinato et al. published by the USENIX

Conference on Object-Oriented Technologies and Systems, 1997 (hereafter Garbinato '97), and

in further view of U.S. Patent No. 5,731,847 issued to Tsukagoshi et al. (hereafter Tsukagoshi

'847).

Claims 6-7:

Regarding Claim 6, Buchanan '490 and Kim '92 in combination disclose all the

limitations of Claim 3 (supra). Further note that Buchanan '490 and Kim '92 in combination

disclose: aligning media streams (Buchanan '490: col. 24, lns. 11-15; col. 57, lns. 51-63; col. 58,

lns. 9-23). However, Buchanan '490 and Kim '92 in combination do not explicitly disclose:

-   (Claim 6) aligning an audio stream specified by said media stream with an audio structure

    corresponding to said audio stream; or

-   (Claim 7) aligning a text stream specified by said media stream with a text structure

    corresponding to said text stream.

Tsukagoshi '847 discloses an encoder and decoder of subtitle information. Specifically,

Tsukagoshi '847 discloses:

-   (Claim 6) aligning an audio stream specified by said media stream (Tsukagoshi '847:

    col. 11, lns. 45-50 and Alleva '197: col. 13, lns. 40-46). Note that while analysis of an

    audio stream under Tsukagoshi '847 is optional, the combination of Alleva '197 to

    Tsukagoshi '847 requires the generation and subsequent alignment of an audio structure

    from an audio stream.

-   (Claim 7) aligning a text stream specified by said media stream (Tsukagoshi '847: col.

    11, lns. 28-35).

However, Tsukagoshi '847 does not explicitly disclose:

-   (Claim 6) aligning with an audio structure corresponding to said audio stream; or

- (Claim 7) aligning with a text structure corresponding to said text stream.

Garbinato '97 discloses the well-known Strategy design pattern. Specifically, Buchanan '97 discloses that objects designed to handle distinct types of data and/or interactions are to be distinct via the Strategy design pattern (Garbinato '97: p. 1, col. 2, lns. 14-27).

It would have been obvious to a person to apply the substitute the automatic temporal formatter of Buchanan '490 for the rate controller with the encoder/decoder of Tsukagoshi '847. The motivation to combine is suggested by Buchanan '490 which discloses: the automatic temporal formatter of Buchanan '490 operates during run-time (Buchanan '490: col. 3, lns. 11-15) and further that application of the automatic temporal formatter of Buchanan '490 and Garbinato '97 provides the advantage of handling unpredictable data changes such as that of the runtime subtitle to video/audio matching of Tsukagoshi '847 (Buchanan '490: col. 3, lns. 40-47; col. 6, lns. 7-10).

It would have been further obvious to a person having ordinary skill in the art to modify the Buchanan '490 and Tsukagoshi '847 combination by separating the structuring functions of the first and second operations into distinct aligner objects as per the Strategy design pattern of Garbinato '97. The motivation to accomplish said modification is suggested by Garbinato '97 which discloses that encapsulating the aligner implementations into separate objects and invoking via a Strategy design pattern provides the advantages of providing both design time and runtime composition of aligner implementations and furthermore overcomes the limitations of an inheritance based implementation (Garbinato '97: p. 3, col. 2, ln. 3 to p. 4, col. 1, ln. 24).

Claims 18-19:

Examiner notes that Claims 18-19 are the apparatus embodiment of Claims 6-7

respectively and are rejected on the same basis.

10.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan '490 in

view of Garbinato '97.

Claim 8:

Regarding Claim 8, Buchanan '490 discloses: a system for synchronizing a realization of

a media stream (Buchanan '490: Abstract) having a first representation synchronized with said

realization, and at least one second representation, (Buchanan '490: col. 57, lns. 11-13) said

method comprising:

- a structurer configured to determine structure information for said first representation

  (Buchanan '490: col. 23, lns. 59-65; col. 57, lns. 20-30);

- a structurer configured to determine structure information for said at least one second

  representation (Buchanan '490: col. 23, lns. 59-65; col. 57, lns. 20-30); and

- a first aligner configured to align said structure information for said first representation

  and said at least one second representation (Buchanan '490: col. 23, ln. 66 to col. 24, ln.

  10; col. 57, lns. 31-50).

However, Buchanan '490 does not explicitly disclose that the structurer for the first

representation and the structurer for the second representation are distinct.

Garbinato '97 discloses the well-known Strategy design pattern. Specifically, Buchanan

'97 discloses that objects designed to handle distinct types of data and/or interactions are to be

distinct via the Strategy design pattern (Garbinato '97: p. 1, col. 2, lns. 14-27).

It would have been obvious to a person having ordinary skill in the art to modify

Buchanan '490 by separating the structuring functions of the first and second operations into

distinct structurer objects as per the Strategy design pattern of Garbinato '97. The motivation to

accomplish said modification is suggested by Garbinato '97 which discloses that encapsulating

the structurer implementations into separate objects and invoking via a Strategy design pattern

provides the advantages of providing both design time and runtime composition of structurer

implementations and furthermore overcomes the limitations of an inheritance based

implementation (Garbinato '97: p. 3, col. 2, ln. 3 to p. 4, col. 1, ln. 24).

11.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan '490

and Garbinato '97 in view of Tsukagoshi '847.

Claim 9:

Regarding Claim 9, Buchanan '490 and Garbinato '97 in combination disclose all the

limitations of Claim 8 (supra). However, Buchanan '490 and Garbinato '97 in combination do

not disclose: at least one renderer configured to render said at least one second representation,

after being synchronized, in a form suitable for displaying as an overlayed subtitle.

Tsukagoshi '847 discloses an encoder and decoder of subtitle information. Specifically,

Tsukagoshi '847 discloses: at least one renderer configured to render said at least one second

representation, after being synchronized, in a form suitable for displaying as an overlayed

subtitle (Tsukagoshi '847: col. 16, lns. 1-15). Note that Tsukagoshi '847 teaches "a rate

controller which controls the rate that the compressed video is transferred to the multiplexer in

synchronism with the rate that the subtitles are sent to the multiplexer" (Tsukagoshi '847: col. 11, lns. 37-43).

It would have been obvious to a person to apply the substitute the automatic temporal formatter of Buchanan '490 and Garbinato '97 for the rate controller with the encoder/decoder of Tsukagoshi '847. The motivation to combine is suggested by Buchanan '490 which discloses: the automatic temporal formatter of Buchanan '490 and Garbinato '97 operates during run-time (Buchanan '490: col. 3, lns. 11-15) and further that application of the automatic temporal formatter of Buchanan '490 and Garbinato '97 provides the advantage of handling unpredictable data changes such as that of the runtime subtitle to video/audio matching of Tsukagoshi '847 (Buchanan '490: col. 3, lns. 40-47; col. 6, lns. 7-10).

12.　　Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan '490, Garbinato '97, and Tsukagoshi '847 in view of Kim '92.

Claim 10:

Regarding Claim 10, Buchanan '490, Garbinato '97, and Tsukagoshi '847 in combination disclose all the limitations of Claim 9 (supra). Buchanan '490, Garbinato '97, and Tsukagoshi '847 further disclose that the realization specifies a media stream (Buchanan '490: col. 57, lns. 11-13). However, Buchanan '490, Garbinato '97, and Tsukagoshi '847 in combination do not explicitly disclose: system further comprising: a tree aligner configured to determine a tree structure for said media stream.

Kim '92 discloses a synchronization relation tree. Specifically, Kim '92 discloses: the system further comprising: a tree aligner configured to determine a tree structure for said media stream (Kim '92: Abstract).

It would have been obvious to a person having ordinary skill in the art to apply the synchronization relation tree of Kim '92 to the Buchanan '490, Garbinato '97, and Tsukagoshi '847 in combination. The motivation to combine is suggested by Kim '92 which discloses the synchronization relation tree provides for both "temporal relationship consistency" and "dynamic schedule completion" and further is better suited for an object-oriented implementation (Kim '92: p.3, ln. 38 to p. 4, ln. 3).

13.   Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan '490, Garbinato '97, Tsukagoshi '847, and Kim '92 in combination in further view of the publication, "Detection of Target Speakers in Audio Databases," by Magrin-Chagnolleau, published by ICASSP, 1999 (hereafter Magrin-Chagnolleau '99).

Claims 11-12:

Regarding Claims 11-12, Buchanan '490, Garbinato '97, Tsukagoshi '847, and Kim '92 in combination disclose all the limitations of Claim 10 (supra). However, Buchanan '490, Garbinato '97, Tsukagoshi '847, and Kim '92 in combination do not explicitly disclose:

-   (Claim 11) means for detecting speech and non-speech boundaries; and

-   (Claim 12) means for detecting transitions and speaker changes.

Magrin-Chagnolleau '99 disclose: means for detecting speech and non-speech boundaries

and means for detecting transitions and speaker changes (Magrin-Chagnolleau '99: Abstract;

Section 4 titled, "Detection Algorithm").

It would have been obvious to a person having ordinary skill in the art to apply the means

of Magrin-Chagnolleau '99 to the Buchanan '490, Garbinato '97, Tsukagoshi '847, and Kim '92

combination. The motivation to accomplish said application is suggested by Magrin-

Chagnolleau '99 which discloses, the advantages of automatically detecting "useful cues to

segment, classify, and organize" audio data using multiple speakers (Magrin-Chagnolleau '99:

Abstract, Section 1, titled, "Introduction.").

Conclusion

14.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- AAPA – Examiner notes a large number of prior art cited by applicant as incorporated by reference in the specification. This prior art is enumerated in paragraph 1 (supra) which objects to the improper incorporation of "essential subject matter" by reference. Furthermore, the above algorithms and approaches cited anticipate the application of the applicant.

- U.S. Patent No. 5,748,187 to Kim et al. "Synchronization Control of Multimedia Objects in an MHEG Engine." Reference teaches greater details of synchronization in MHEG. Complements the Buchanan '490 reference.

- U.S. Patent No. 5,895,124 to Tsuga et al. "Optical Disc and Reproduction Device Which Can Achieve a Dynamic Switching of the Reproduced Content." Reference is one of many which teach storing of subtitles on DVDs.

15.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Patrick J.D. Santos whose telephone number is 703-305-0707.

The examiner can normally be reached on M-F 8:00-4:30.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

        Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J.D. Santos
May 1, 2004

UYEN LE
PRIMARY EXAMINER